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09/717,306	11/22/2000	John Petter Fjeldstad	1380-0153P	8435

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EXAMINER

LYONS, MICHAEL A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/717,306

Applicant(s)

FJELDSTAD ET AL.

Examiner

Michael A. Lyons

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2003 and 24 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, 10-12, 14 and 18-29 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 9, 13 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Drawings***

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on March 21, 2003 have not been accepted. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: element 110 referring to a generator. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

A substitute specification is required pursuant to 37 CFR 1.125(a) because the multiple corrections of the reply dated March 21, 2003 makes it difficult for one to read and understand the content of the specification without confusion.

A substitute specification filed under 37 CFR 1.125(a) must only contain subject matter from the original specification and any previously entered amendment under 37 CFR 1.121. If the substitute specification contains additional subject matter not of record, the substitute specification must be filed under 37 CFR 1.125(b) and must be

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accompanied by: 1) a statement that the substitute specification contains no new matter; and 2) a marked-up copy showing the amendments to be made via the substitute specification relative to the specification at the time the substitute specification is filed.

Claim Objections

Claim1 is objected to because of the following informalities: the word "relief" is misspelled as "relieve" in line 14 of the claim. Appropriate correction is required.

Claim5 objected to because of the following informalities: the word "release" is misspelled as "reslease" in line 6 of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the device" in line 3. There is insufficient antecedent basis for this limitation in the claim. What device is being referred to here?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 3-4, and 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horn (5,339,152) in view of Rockstroh (6,094,260).

Regarding claim 5, Horn discloses in the figure a probe 1 containing a window 3 for illuminating the object 23 with light, a mirror 2 for sending scattered light back through the probe towards camera 19, and transducer 4 for creating stress in the object. While Horn's device uses a window and a mirror, it is well known in the art to use optical fibers for light transmittal through the probe and throughout the device as a whole.

Horn also discloses a camera 19 with a CCD (col. 4, line 16) at focal plane 15 for the formation, registration, and development of the hologram and formation of the interferogram.

Horn's device, however, fails to disclose a reference beam passing directly from the light source into the camera. Rockstroh teaches (Fig. 1) sending a light beam 11 from light source 6 through beam splitter 12 to form reference beam 16 that travels directly to camera 20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a beam splitter in the device of Horn as per Rockstroh to facilitate the interference of a reference beam and a measurement beam for the creation of an interferogram. Although Horn's device originally uses beam splitter 21 to create an in-phase beam and an out of phase beam out of the measurement light for the purpose of interference (col. 4, line 7-13), the beam splitter of Rockstroh could be inserted at the location of prism 16 in the device of Horn to achieve the desired effect.

Regarding claim 1, the combination of Horn in view of Rockstroh discloses all the elements of the claimed apparatus as disclosed above. In light of this, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the

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claimed method to the combined device of Horn in view of Rockstroh to achieve the desired results of using the device.

As for claim 3, Horn states in column 4, lines 40-43 that “any means which may be controlled for the purpose of applying stress to the surface are intended to be included within the scope of the invention.” This statement can be read to include the use of an electric high current pulse for the release of stresses into the test object.

As for claim 4, providing a protective environment for the use of amorphous molecular semiconductors is well known in the art.

Claims 10, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horn (5,339,152) in view of Rockstroh et al (6,094,260).

Regarding claim 10, Horn discloses in the figure a laser source 8, a probe 1, and a camera 9 with a CCD (col. 4, line 16) at focal plane 15 for the formation, registration, and development of the hologram and the formation of the hologram. While Horn’s device uses windows and mirrors to transmit light throughout the device, it is well known in the art to use optical fibers for light transmittal through the probe and throughout the device as a whole.

Horn’s device, however, fails to disclose the splitting of the incident light beam into a reference and an object beam. Rockstroh (Fig. 1) teaches sending a light beam 11 from light source 6 through beam splitter 12 to form a reference beam and an object beam. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a beam splitter in the device of Horn as per Rockstroh to facilitate the interference of a reference beam and a measurement beam for the creation of an interferogram. Although Horn’s device originally uses beam splitter 21 to create an

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in-phase beam and an out of phase beam out of the measurement light for the purpose of interference (col. 4, line 7-13), the beam splitter of Rockstroh could be inserted at the location of prism 16 in the device of Horn to achieve the desired effect.

As for claim 12, the device contains a laser and a beam splitter as discussed above.

As for claim 19, the use of single-mode light guidance (fiber optic) cables as light guidance cables is well known in the art.

Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horn (5,339,152) in view of Rockstroh et al (6,094,260).

Regarding claims 20, 21, and 23, the combination of Horn in view of Rockstroh discloses all the elements of the claimed apparatus as disclosed above. In light of this, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the claimed method to the combined device of Horn in view of Rockstroh to achieve the desired results of using the device.

As for claim 22, Horn states in column 4, lines 40-43 that “any means which may be controlled for the purpose of applying stress to the surface are intended to be included within the scope of the invention.” This statement can be read to include the use of an electric high current pulse for the release of stresses into the test object.

Claims 24-25 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horn (5,339,152) in view of Rockstroh et al (6,094,260).

Regarding claim 24, Horn discloses in the figure a laser source 8, a probe 1, and a camera 9 with a CCD (col. 4, line 16) at focal plane 15 for the formation, registration, and development of the hologram and the formation of the hologram. While Horn's

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device uses windows and mirrors to transmit light throughout the device, it is well known in the art to use optical fibers for light transmittal through the probe and throughout the device as a whole.

Horn's device, however, fails to disclose the splitting of the incident light beam into a reference and an object beam. Rockstroh (Fig. 1) teaches sending a light beam 11 from light source 6 through beam splitter 12 to form a reference beam and an object beam. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a beam splitter in the device of Horn as per Rockstroh to facilitate the interference of a reference beam and a measurement beam for the creation of an interferogram. Although Horn's device originally uses beam splitter 21 to create an in-phase beam and an out of phase beam out of the measurement light for the purpose of interference (col. 4, line 7-13), the beam splitter of Rockstroh could be inserted at the location of prism 16 in the device of Horn to achieve the desired effect.

As for claim 25, the use of single-mode light guidance (fiber optic) cables as light guidance cables is well known in the art.

As for claim 27, Horn states in column 4, lines 40-43 that "any means which may be controlled for the purpose of applying stress to the surface are intended to be included within the scope of the invention." This statement can be read to include the use of an electric high current pulse for the release of stresses into the test object.

As for claim 28, Horn discloses a camera 9 with a CCD (col. 4, line 16) at focal plane 15 for the formation, registration, and development of the hologram and the formation of the hologram.

Double Patenting

Claims 2, 8, 11, 14, 18, 26, and 29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 8, and 11 of U.S. Patent No. 6,522,409 in view of Horn (5,339,152) and in further view of Rockstroh et al (6,094,260). US Patent 6,522,409 discloses a method and device for non-destructive inspection of objects by means of optical holographic interferometry. The device discloses a source of coherent light, a holographic interferometer, a registering medium, a device for loading the object that is to be investigated, and auxiliary devices for observation and processing of the resulting holograms. In addition, the device is designed such that “the endpoints of the single-mode light guidance cable are securely attached a fixed distance from the object module containing the investigation area of the object, and between the recording medium of the holographic camera and light source, respectively” (Claim 4, but claims 1, 8, and 11 are also relevant).

This patent, however, fails to disclose the stress-release probe as claimed in the current invention. The combination of Horn in view of Rockstroh, as discussed regarding the 35 U.S.C. Section 103 rejections above, discloses the use of a stress-release probe in the course of optical holography measurements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the probe of the combined device of Horn and Rockstroh along with the device in the 6,522,409 patent to facilitate the recording of stress induced holographic measurements.

Allowable Subject Matter

Claims 6, 7, 9, 13, and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed March 21, 2003 have been fully considered but they are not persuasive. With regards to the arguments pertaining to claims 1, 3, and 4, the use of light guidance cables, such as fiber optic cables, for transporting light and information from one location in a device to another is well known in the art. Such cables are used in communications systems as well as a wide variety of interferometric systems, and for this reason, the basic lack of such cables in the actual devices of Horn and Rockstroh cannot serve to claim that the claims are patentably distinguishable over the prior art.

With regards to the arguments pertaining to claims 5, 7, and 9, the applicants note on page 26, "In sum, for reasons of simplicity, less expense, and ability to analyze confined spaces, Horn teaches against the disclosure of Rockstroh, and thus the two reference may not be combined". This is in addition to the same arguments as above with regards to the lack of light guidance cables. The summation about the combination of Horn and Rockstroh is not persuasive, as this conclusion fails to convey why the way the invention itself works does not read on the claims. In addition, in response to the applicants' argument about the ability to analyze only confined spaces, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987).

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Applicants' arguments with respect to claims 10-29 have been considered but are moot in view of the new ground(s) of rejection as necessitated by their inclusion via amendment, in addition to the reasons listed above in response to the arguments regarding the claims originally filed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 703-305-1933. The examiner can normally be reached on Monday thru Thursday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 703-308-4877. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

MAL
May 21, 2003


Frank G. Font
Supervisory Patent Examiner
Technology Center 2800